Route Reconnaissance and Clearance: A Marine Aircraft Wing Future Capability

By Major Nick I. Brown and Major Taylor P. White

The United States Marine Corps invests in the Marine Wing Support Groups and its subordinate Marine Wing Support Squadrons (MWSSs) to provide sustained aviation ground support to the aviation combat element (ACE) of the Marine Air-Ground Task Force (MAGTF). The primary mission of the MWSS is to enable sortie generation and expeditionary operations by Marine aviation. Marine aviation must constantly push the objective to be the extended fighting arm of the rifleman, available at a moment's notice. The ability to swiftly create temporary, expedient helicopter landing zones; leapfrog forward arming and refueling points with the advancing force; conduct replenishment combat logistics operations; or rapidly construct expeditionary airfields and airbases permits Marine aviation to be in the front pocket of the MAGTF commander. Therefore, mobility of the MWSS on the battlefield is essential, and the route reconnaissance and clearance (R2C) capability coming to the MWSS will multiply the ACE's expeditionary ability and continue to set it apart from the aviation organizations of the other Services.

Maintaining Mobility

Mines and improvised explosive devices (IEDs), also known as roadside bombs, remain the No. 1 killer of U.S. troops in Iraq and Afghanistan. In addition to inflicting casualties, these explosive hazards restrict MAGTF maneuver and mobility, therefore shaping our operations. R2C capability is of vital importance to maintain the commander's freedom of maneuver and protect Marines.

The strategic and operational effects of employing explosive hazards have been high, with a relatively low risk and investment for our enemies. The current operational context in United States Central Command's area of operations and projected enemy tactics, techniques, and procedures (TTP) prove that IEDs will be a real and foreseeable threat to our military for years to come. As a result, there will be a high demand for route clearance equipment and personnel throughout the MAGTF, creating competing demands on limited assets and resources.

General William L. "Spider" Nyland, former Assistant Commandant of the Marine Corps, once said, *"The demands of expeditionary maneuver warfare require the MAGTF commander to have assured access, an ability to conduct movement and maneuver, and an ability to retain the initiative with high operational tempo. The asymmetric nature of the mine threat and its increasing sophistication and proliferation combine to make the attainment of adequate countermine, counter-IED, and counterunexploded ordnance capabilities critical to the future of our Corps and its role as our nation's most responsive force in readiness."*[1] To ensure flexible and responsive aviation ground support to the ACE, R2C must be an integral part of the MWSS and an assured capability of the Marine aircraft wing. This article discusses how the R2C concept was

implemented by the MWSS supporting the 2d Marine Aircraft Wing (Forward) during Operation Iraqi Freedom, the benefits and challenges R2C presents to the ACE, and the way ahead for R2C within the wing.

Providing Aviation Ground Support

Upon arrival in Al Anbar Province in support of Operation Iraqi Freedom, MWSS-271 (Reinforced) began providing aviation ground support to the 2d Marine Aircraft Wing (Forward). This support included the following:

- Aircraft and ground refueling
- Aircraft rescue and firefighting
- Weather services
- Motor transport support, to include convoy operations and maintenance
- Explosive ordnance disposal (EOD)
- Utilities support
- Heavy equipment support
- Expeditionary airfield services, to include airfield marking and lighting, arresting gear support, and certification of expeditionary landing zones and lighting systems

To help with these support missions, the MWSS has an organic platoon of combat engineers who provide general and combat engineering support to 2d Marine Aircraft Wing (Forward).

The MWSS R2C team stages equipment for movement in Al Anbar Province. Pictured is the Husky Metal Detecting and Marking Vehicle.

The United States Army relocated several route clearance teams to Afghanistan and other areas in Iraq. This shift in forces meant that Multinational Forces–West (MNF–W) had to field its own route clearance teams from Marine engineer units already in-theater. After assuming the aviation ground support mission, the MWSS explored the feasibility of retasking its combat engineer platoon to conduct route clearance in support of MNF–W operations.

The new R2C was a daunting challenge for MWSS-271. Having recently relieved two squadrons, the unit was fully engaged as the only MWSS in Al Anbar Province. Now it would have to prepare in-theater for a mission never before assigned to an MWSS. The combat engineers in the platoon had spent the past year preparing to conduct airfield repairs and honing their vertical construction skills, but now would train on equipment and techniques none of them had ever seen before. However, they also had to be prepared to provide mobility, survivability, and countermobility support to the ACE. Since most vertical construction was being handled by contractors, the combat engineers were able to support the ACE mission. Also, knowing that the MWSS would eventually inherit this capability, coupled with the number of convoys required to support outlying airfields, it was obvious that a route clearance team would benefit the ACE and the entire MAGTF. The limited number of combat engineers in the support squadron might have prevented fielding a dedicated R2C team in a more expeditionary environment or in a setting demanding more general engineering projects.

Task-Organizing for Route Clearance

The combat engineer platoon was task-organized for this specific mission. The nominal requirement for a route clearance platoon was about two dozen Marines with limited specialties. The combat engineer platoon at Al Asad was busy and had small detachments of engineers at other locations in the area, performing runway repairs at Al Taqaddum, vertical construction at Al Asad, general engineering tasks at Sahl Sinjar, and dust abatement throughout the area of operations. As a result, the support squadron assigned Marines of various specialties from other platoons to complete the team. The route clearance team consisted of Marines with additional specialties that proved valuable for maintaining equipment, providing security, and enabling combat engineers to focus on the technical aspects of the route clearance duties.

Due to the task organization of multiple Marine units into route clearance teams, the MNF–W counter-IED cell arranged for in-theater training by a mobile training team from the United States Marine Corps Engineer Center of Excellence that focused on vehicle employment, sweep

An MWSS Marine inspects the Buffalo Mine-Protected Clearance Vehicle (MPCV).

formations, and IED interrogation and identification. The newly formed MWSS R2C team also conducted mine-resistant, ambush-protected vehicle licensing, demolitions training, day and night live-fire shoots, IED training lanes, combat lifesaver training, and communications training for seamless close air support coordination. Because of MNF–W needs, the coordination, standup, and training of the teams was greatly accelerated. The R2C program of record was devised in 2009 and continues to move toward maturity in both training and TTP. Furthermore, as enemy TTP change, our training and preparation will continue to evolve.

Assuming the Mission

Upon completion of training, the R2C team began transition training with the outgoing Army unit and assumed responsibility for the route clearance mission. The team conducted numerous missions searching the main supply routes for IEDs. Trash or debris determined not to be an IED was cleared away so that later convoys would not have to interrogate it for potential hazards. When IEDs were identified, MWSS EOD specialists were called to neutralize the devices. With the closure of several outlying airfields, flight line EOD requirements were reduced and the MWSS-271 EOD team was eventually embedded with the R2C team. However, it would be difficult in the future to dedicate an EOD team from the ACE to full-time route clearance missions. Having dedicated EOD teams from the ACE perform the full-time route clearance mission depends on airfield requirements and ACE priorities.

The R2C team was in general support to MNF–W but remained under the control of MWSS-271. To provide effective command and control of the route clearance mission, MWSS-271 designated an officer in the operations section who focused exclusively on route clearance operations. This dedicated resource in the Aviation Ground Support Operations Center was critical for coordinating R2C missions with higher headquarters, requesting and coordinating air coverage where needed, and coordinating necessary support with adjacent units. The R2C team remained in close contact with maneuver battalions in the regimental combat team's area of operations to ensure proper coordination for movement, EOD support, quick-reaction force support, and seamless communication and intelligence feedback. Additionally, the team submitted joint tactical air requests to provide overwatch and escort of route clearance missions. The team's innovative use of communication to coordinate its moves helped the squadron in its daily operations and served as a template for direct support of the ACE.

MWSS-271 conducted convoys and missions throughout Al Anbar Province involving helicopter landing zone installation and removal as well as the retrieval of gear and equipment. Route clearance teams inspected and cleared routes before convoy movements, removing possible hazards from main supply routes and enabling unimpeded movements. The squadron demonstrated the flexibility of its combat engineers and support personnel while proving the concept of mobility support to the ACE.

The ability to clear a route of any length requires a huge investment in time, manpower, and resources. High-demand, low-density capabilities such as R2C invariably (and justifiably) go to support the ground combat element or its supporting units. Organic R2C assets for the MWSS granted flexibility to the ACE commander and benefitted airfield and airbase support functions by increasing responsiveness and maintaining ground mobility to forward areas that required support.

The advantages of having an R2C team in the ACE are not limited to support for convoy movement. The ability to detect explosive hazards would provide the following advantages:

- Enhance air base security
- Protect personnel by clearing tactical areas such as forward arming and refueling points
- Enable road movement essential to support highly mobile and flexible helicopter and fixed-wing operations
- Improve tactical recovery of aircraft and personnel
- Assist in base recovery after attacks by allowing assessments of the airfield and facilities, detecting and mitigating unexploded ordnance, and clearing explosive hazards

Facing New Challenges

The R2C capability will present new challenges and compete for the general engineering services necessary to support the ACE during operations. As an emerging mission for the MWSS, R2C will require the following considerations:

- Employment and maintenance of the capability
- Additional burdens on a limited number of combat engineers organic in the MWSS
- Additional training requirements
- Possible mission creep to support the MAGTF route clearance requirement

As demonstrated by MWSS-271, the ability to conduct route clearance missions outside the ACE required flexibility and creativity. The task list for combat engineers in the ACE is long and diverse. Engineering services necessary to support the ACE during expeditionary operations include, but are not limited to, the following:

- Airfield surface repair (rapid runway repair)
- Expeditionary structure construction (SEAhuts, strongback framing)
- Assembly and construction of prefabricated shelters and K-spans
- Force protection and survivability construction
- Limited combat engineering services (countermobility, obstacles), construction, improvement, and maintenance of helicopter landing zones

Supporting all these requirements, plus providing a full-time R2C team in general support of MNF–W, with just one platoon requires careful prioritization. MWSS engineers have a diverse and demanding task list when supporting the ACE in an expeditionary environment. Adding a full-time R2C mission will compound the challenge while enhancing the squadron's ability to support airfield operations. The squadron's combat engineers are required to provide limited mobility and mine detection support and the R2C capability would enhance their ability to accomplish these tasks.

Aviation ground support directly extends and expands the employment of Marine aviation. It is a decisive component that gives Marine aviation its expeditionary ability. With an organic R2C capability, the MWSSs will provide better support to the ACE. MWSS-271 proved the value and benefits of an R2C capability during Operation Iraqi Freedom. R2C presents many advantages as well as aviation ground support challenges, but the expeditionary enabler capability within the MWSS is an assured force multiplier to Marine aviation.

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Endnote

[1]*Marine Corps Gazette*, "The Engineer Center of Excellence," November 2008, *<http://www.mca-marines.org/gazette/nov08-prickett.asp>,* accessed 4 March 2010.